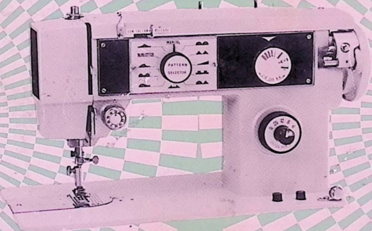
ZIG ZAG

MODEL 1692


MANUAL
PATTERN SELECTOR

INSTRUCTION BOOK

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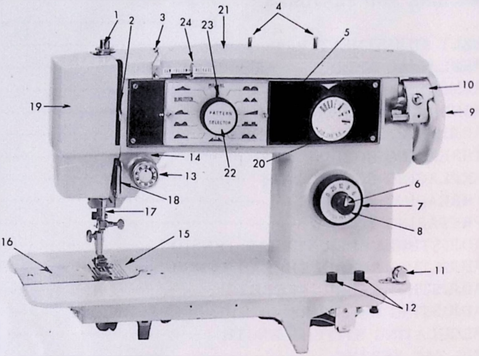
1. MACHINE AND FEATURES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PATTERN
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Fig. 1

FRONT

1. Built-in Darner
2. Thread Take-Up Lever
3. Upper Thread Guide
4. Spool Pin
5. Indicating Plate
6. Stitch Length Indicator
7. Stitch Length Dial
8. Reverse Stitch Control
9. Fly Wheel
10. Bobbin Winder
11. Bobbin Winder Thread Guide
12. Fabric Feeders Control Buttons
13. Thread Tension Regulator
14. Thread Take-Up Spring
15. Needle Plate
16. Slide Plate
17. Needle Bar
18. Thread Tension Guide
19. Face Plate
20. Zig Zag & B.H (Button Hole) Dial
21. Top Cover
22. Patterns Dial
23. Patterns Indicator
24. Pattern Dial Changing Lever

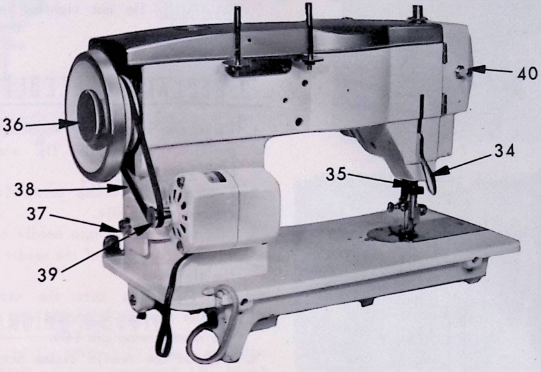
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Fig. 3

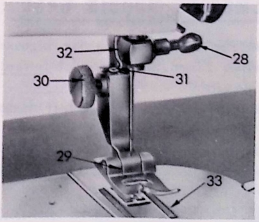

32
28
30
31
29
33

Fig. 2

28. Needle Clamp Thumb Screw
29. Presser Foot
30. Presser Foot Thumb Screw
31. Needle Bar Thread Guide
32. Presser Bar
33. Fabric Feeders

BACK

34. Presser Bar Lifter
35. Thread Cutter
36. Stop Motion Screw
37. Motor Set Screw
38. Motor Belt
39. Motor Pulley
40. Sewing Light Switch

2. BELT ADJUSTMENT

Loosen motor bracket screw (A). Slide motor bracket down to tighten -up to loosen.

CAUTION : Do not tighten belt too tight.

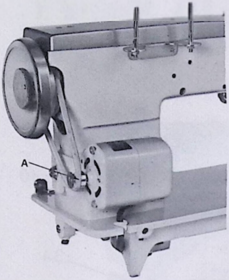


Fig. 4

3. REPLACING NEEDLE

1. Raise the needle bar to its highest position. (Turn the fly wheel by hand toward you.)
2. Loosen needle clamp screw (A) and remove old needle.
3. Insert the needle into needle bar (B) with the flat side of the needle toward the fly wheel.

   CAUTION : Be sure the needle is all the way up. It should rest against the needle stop pin (C).
4. Tighten the needle clamp screw securely with screw driver.

   CAUTION : Check needle and make sure it is not bent or dull.

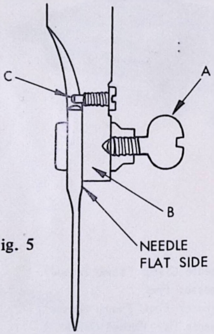


Fig. 5

4. REMOVING BOBBIN CASE

1. Raise the needle bar to its highest position. (Turn the fly wheel toward you by hand.)
2. Open slide plate. With the left thumb and forefinger, open the latch (A) of the bobbin case (B).
3. Remove bobbin case from the spindle post (C). (Pull to the left.)

   NOTE : With the latch held open. the bobbin is locked inside the bobbin case. To remove bobbin from the bobbin case, release the latch.

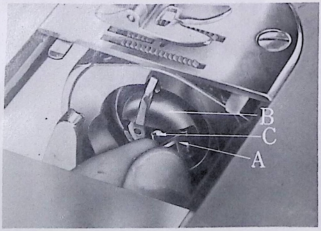


Fig. 6

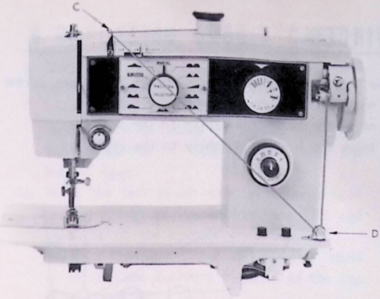


Fig. 8

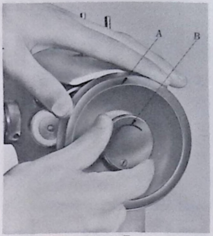


Fig. 7

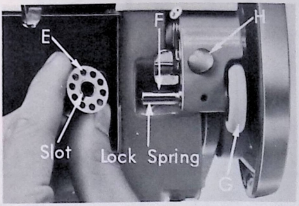


Fig. 9

5. WINDING BOBBIN

1. Hold the fly wheel (A) Fig. 7 with the left hand and turn the clutch (B) Fig. 7 toward you to release the clutch. By doing this, the fly wheel turns freely.
   NOTE : If the needle moves, the clutch is not completely released.
2. **Place thread on the spool pin and guide the thread through the upper thread guide (C) Fig. 8. Then bring the thread across the machine and under the bobbin winder thread guide (D) Fig. 8.**
3. Wind the thread several times on the bobbin (E) Fig. 9. Now place the bobbin on the spindle (F) Fig. 9 of the bobbin winder.
   NOTE : The lock spring on the spindle must fit into the slot in the bobbin.
   This is done by holding the rubber ring (G) Fig. 9 with the right hand and turning the bobbin with the left hand until the lock spring slips into the slot of the bobbin.
4. Push the button (H) Fig. 9. of the bobbin winder down until the rubber ring (G) Fig. 9 is brought in contact with the fly wheel.
5. Turn the fly wheel slowly toward you; then operate the machine as in sewing. When the bobbin is full, it will stop.
6. Remove the bobbin from the spindle, then re-engage the machine by holding the fly wheel with the left hand and with the right hand turn the clutch away from you.
   NOTE : Make sure you tighten firmly.

6. ADJUSTING BOBBIN WINDER

1. If the thread winds unevenly on the bobbin as shown in Fig. 11 and 12, loosen screw (A) Fig. 13 and adjust the bobbin winder thread guide bracket (B) Fig. 13.
2. If the thread winds as in Fig. 11, move the bracket slightly to the left.
   If the thread winds as in Fig. 12, move the bracket slightly to the right.

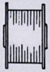


Fig. 10

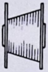


Fig. 11

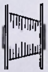


Fig. 12

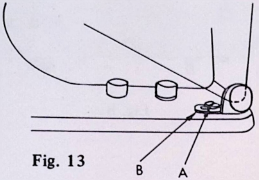


Fig. 13

7. THREADING BOBBIN CASE

1. Hold the bobbin case between the left thumb and forefinger with the slot up. With 5 or 6 inches of thread trailing in the palm, hold the bobbin between the thumb and first two fingers of right hand.
2. Insert the bobbin into the bobbin case, then pull the trailing thread into the slot. up to the left until it enters the delivery eye under the tension spqing. There should be a slight tension on the thread as it pulls through the delivery eye.

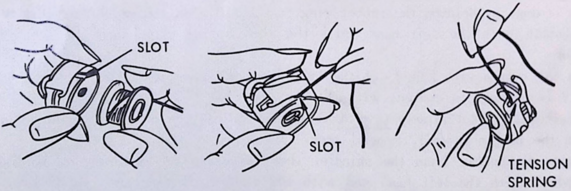


Fig. 14

8. REPLACING BOBBIN CASE

1. Turn fly wheel toward you by hand until the needle bar is at its highest position, and open the slide plate.
   Draw about 3 inches of thread from the bobbin and let it hang loosely from the bobbin case.
2. With the left thumb and forefinger, hold the latch (A) of the bobbin case (B) and place it on the spindle post (C).
   NOTE : The protruding finger (D) must slide into the delivery eye (E) at the top of the shuttle.
3. Release the latch and press the bobbin case to the right until it catches the groove on the spindle post.

9. THREADING MACHINE

1. Turn the fly wheel toward you and raise the take up lever (E) to its highest position. Place thread on the spool pin and bring the thread through the upper thread guide (A).
2. Bring the thread down through the thread guide to the tension disc (B) from right to left and up.
   Then pull the thread up through the thread take up spring (C).
3. Bring the thread through the thread tension guide (D) and thread the take up lever (E) from right to left.
4. Bring thread down through the thread guide (F) at the opening in the face plate, and through the needle bar thread guide (G) from behind. Thread the needle from left to right, leaving about 5 or 6 inches of thread.

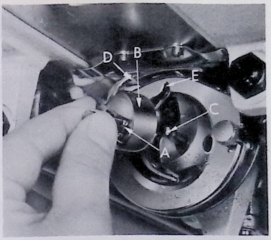


Fig. 15

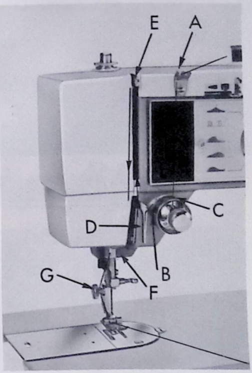


Fig. 16

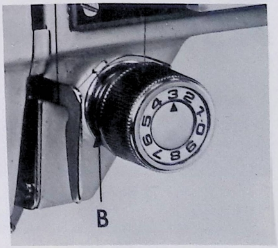


Fig. 17

10. PREPARING TO SEW

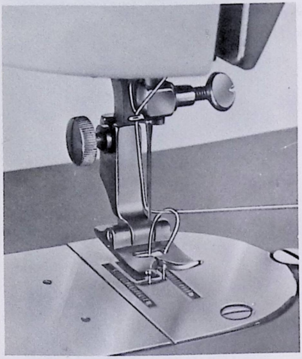


Fig. 18

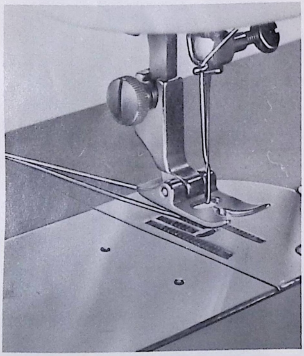


Fig. 19

1. Hold the loose end of the needle thread in your left hand, and turn the fly wheel toward you by hand until the needle moves down through the needle plate and up again to its highest position. Pull the needle thread gently, and the bobbin thread will come up with it through the hole in the needle plate. Then place both ends of the thread back between the toes of the presser foot.

   NOTE : If the bobbin thread does not rise, check to see if there is at least 3 or 4 inches of bobbin thread hanging loosely from the bobbin case.

2. Pull the two threads at least 5 inches behind the presser foot. Place material under presser foot, and lower the foot with the presser bar lifter. Regulate the stitch to the desired size and sew.

   TO REMOVE MATERIAL, raise the needle to its highest position and raise the foot with the presser bar lifer, then pull the fabric back and to the left.

   Cut the thread with the thread cutter behind presser bar, leaving a few inches of thread behind the presser foot.

11. ADJUSTING UPPER THREAD TENSION

The correct stitch can usually be obtained by varying the upper thread tension.
NOTE : TENSION ADJUSTMENT SHOULD BE MADE WITH THE PRESSER FOOT DOWN.
To increase the tension, turn the tension dial clockwise (Fig. 20). To decrease the tension, turn the tension dial counter clockwise (Fig. 20). When the tension is properly adjusted, the upper and lower threads will cross in center of the material (Fig. 21-A).
When the upper thread tension is too tight, or the bobbin tension is too loose, the lower thread will lay flat along the top of the material (Fig. 21-B).
When the upper thread tension is too loose or the bobbin tension too tight, the upper thread will lay flat along the bottom of the material (Fig. 21-C).
The tension should be adjusted gradually until the desired tension is obtained.

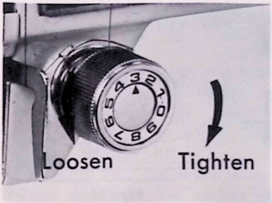


Fig. 20

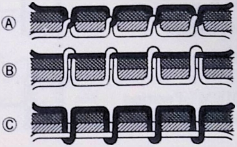


Fig. 21

12. ADJUSTING BOBBIN THREAD TENSION

1. The bobbin thread tension on your machine is correctly adjusted before leaving the factory. Therefore, it is seldom necessary to alter the bobbin thread tension. Should it become necessary to do so, the adjusting screw of the tension spring on the outside of the bobbin case can be tightened or loosened to increase or decrease the tension of the bobbin thread.
2. To increase the bobbin thread tension, turn the adjusting screw clockwise. To decrease tension of the bobbin thread, turn the adjusting screw counter clockwise.

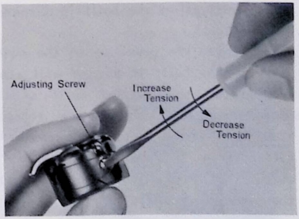


Fig. 22

13. ADJUSTING FABRIC FEEDERS

By using the push buttons you can adjust the fabric feeders for sewing different types of materials and other special sewing, such as embroidering of darning.

1. For ordinary sewing press "SEW" button all the way down. (This raises the fabric feeders to the up position)
2. For sewing very light fabrics, press "DARN" button half way down so that the center line of the "SEW" button appears on the plate.
3. To lower the fabric feeders below the surface of the needle plate, press the "DARN" button all the way down. The fabric feeders are now in the down position, and you will be able to move your material freely in any direction, such as when you desire to embroider or darn. When embroidering and darning, remove the presser foot and use an embroidery hoop.

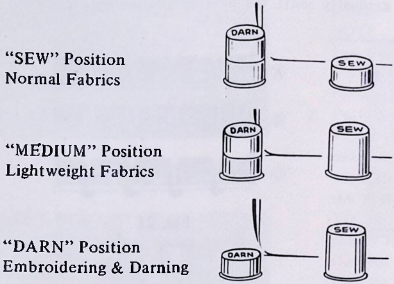


Fig. 23

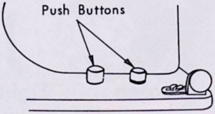


Fig. 24

14. ADJUSTING PRESSURE OF THE PRESSER FOOT

1. To release the pressure on the material, press down on the curled ring (A). (This will allow the built-in darner (B) to raise, thus releasing the pressure on the material.)
2. To increase the pressure on the material, press down the built-in darner (B). NOTE : The built-in darner will stop at any position you desire.
3. For normal sewing, push built-in darner all the way down.
4. For darning and embroidering, release the built-in darner. CAUTION : Even though the presser foot is removed, make sure the presser bar lifter is in the down position.
5. Adjust the built-in darner to the proper position according to the thickness of the material you are using.

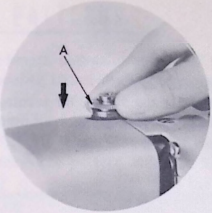


Fig. 25

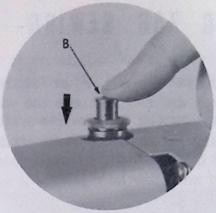


Fig. 26

15. REGULATING STITCH LENGTH

1. Set the zig zag Dial (A) at " : " position.
2. Set the Pattern Dial (F) at "MANUAL" position.

FORWARD :

The figures indicated on the stitch length indicator Plate (D), i.e. 0, 25, 12, 8, 6, indicate the number of stitches per inch. To sew at the desired stitch length, turn the stitch length dial (E), untill the reguired figure comes on the stitch length indicator (C).

SEWING BACKWARD :

Push the "G" Button to th maximum. You can make a reverse stitch. When you release the button, the machine comes back to make a forward stitch. If a different length of stitch is required, set first the Indicator on the required figure and then push the button.

CAUTION :

When the indicator (C) of stitch length is-set on the figure "0", neither forward nor backward stitch can be made.

This will cause the machine to break the thread.

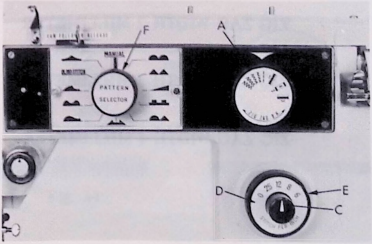


Fig. 27

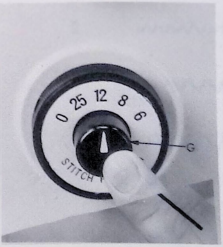


Fig. 28

16. ZIG ZAG SEWING

(1) Set the pattern dial (F) at "MANUAL" position.
The zig zag dial (A) regulates the width of the zig zag stitch. By turning the dial clockwise, you can increase the width of the stitch from 1 to 4 millimeters (0 is only for straight stitch). (See illustration below.)

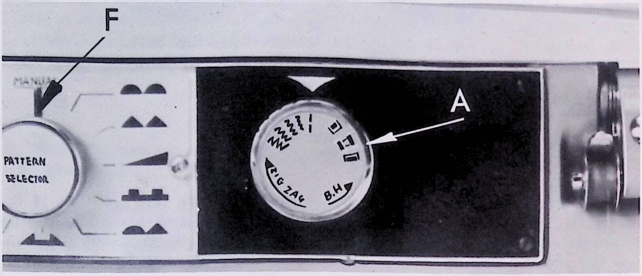


Fig. 29

ZIG ZAG & B.H (BUTTONHOLE) DIAL

MARKING		AVAILABLE STITCHING
------------	0	STRAIGHT STITCH
~~	1	ZIG ZAG WIDTH 1 MILLIMETER
\/\/\/\/\/\/\/\/	2	ZIG ZAG WIDTH 2 MILLIMETER
\/\/\/\/\/\/	3	ZIG ZAG WIDTH 3 MILLIMETER
\/\/\/\/\	4	ZIG ZAG WIDTH 4 MILLIMETER

Fig. 30

MAKING PATTERNS

1. Set stitch length dial as close to "0" position as material makes possible. In other words, stitch shall be as close together as possible, with the material feeding slowly.

   By turning the zig zag dial from 0 – 4 as you are sewing, the pattern formed will be as in Fig. 31. When you slowly release the zig zag dial back to its "0" position, you will form the pattern as in Fig. 32. By turning the zig zag dial slowly from "0" to "4" and slowly back to "0" as the machine is sewing, you will form the pattern as in Fig. 33.

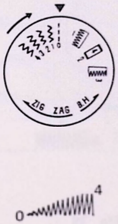

4 3 2 1 0
ZIG ZAG B.H
0
4

Fig. 31

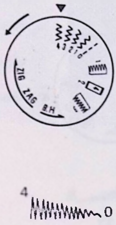

4 3 2 1 0
ZIG ZAG B.H
4
0

Fig. 32

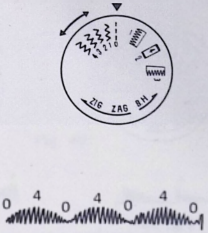

4 3 2 1 0
ZIG ZAG B.H
0
4
0
4
0
4
0

Fig. 33

You can form the pattern as in Fig. 34 by holding the zig zag dial at # 4.

You can form the pattern as in Fig. 35 by holding the zig zag dial at # 2.

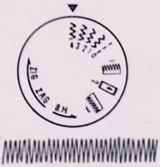

4 3 2 1 0
ZIG ZAG B.H

Fig. 34

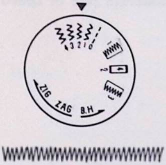

4 3 2 1 0
ZIG ZAG B.H

Fig. 35

You can form the pattern as in Fig. 36 by slowly turning the zig zag dial as the machine is running until #4 is set to arrow, then quickly back the zig zag dial to # 0 and again slowly turn the zig zag dial to #4. Repeat as often as desired.
In order to from the pattern as in Fig. 37, first turn the zig zag dial to #4, and while running the machine slowly release the zig zag dial to "0." When the zig zag dial reaches "0." quickly turn the zig zag dial to #4. Repeat as often as desired.

In order to make the pattern as formed in Fig. 38, with the zig zag dial at "0." sew a straight stitch for the length desired; then while the machine is still running, quickly turn the zig zag dial to #4. Sew the number of stitches desired and then quickly back the zig zag dial, to #0.
Repeat as often as desired.

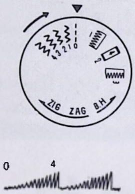


Fig. 36

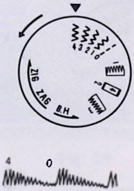


Fig. 37

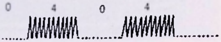


Fig. 38

NOTE: The above patterns are just a few of the numberous patterns that you will be able to make with your machine. By varying the speed with which you turn the zig zag dial and backing the zig zag dial to various Number, 3. 2. 1. 0. and; the number of stitches made, you will be able to create hundreds of different patterns.

CAUTION: When the machine is not sewing, do not turn the zig zag dial unless the needle is raised out of the material. When making patterns, for best results, the machine should be sewing at a moderate rate of speed.

BUILT-IN CAM PATTERN DESIGNS

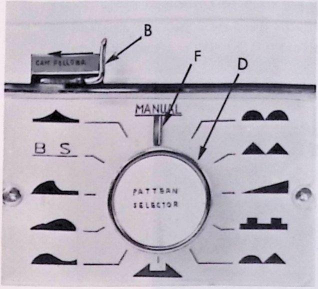


Fig. 39

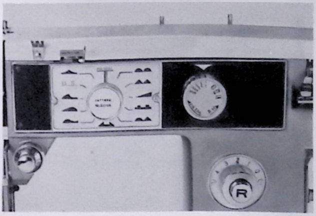


Fig. 40

This machine is equipped with eleven built-in pattern cams and can sew in many various patterns by varying the stitch length and the number of stitches.

1. Set the zig zag dial (A) at "⁝" position.
2. Move the pattern dial changing lever (B) all the way to the left.
3. Don't release the pattern dial changing lever (B) while you move the pattern dial (D).
4. Release the pattern dial changing lever (B) when you have set the pattern dial (D) at desired pattern.
5. You will notice that a beautiful pattern is sewn.

17. BUTTONHOLE SEWING

Buttonholes can be made fully by turning the B.H (Buttonhole) dial (A).
1. Change the regular presser foot to the buttonhole foot.
2. Set the stitch length dial (E) at # 2.
3. Set the pattern dial (D) at "MANUAL" position.

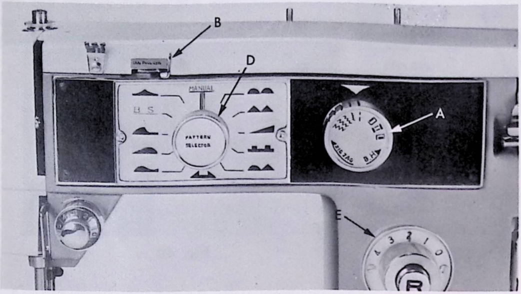

B
D
A
E
MANUAL
B S
PATTERN SELECTOR
ZIG ZAG
B.H
4 3 2 1 0
R

Fig. 41

Buttonhole Foot

IMPORTANT:
MARK BUTTONHOLE LENGTH ON FABRIC AS PER ILLUSTRATION BELOW.

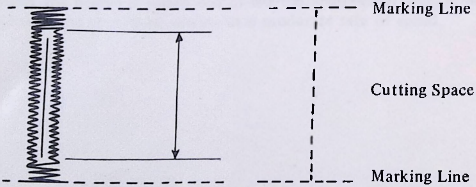

Marking Line
Cutting Space
Marking Line

Fig. 42

FOUR EASY STEPS TO PERFECT BUTTONHOLES

1-Left Side Stitching

1. Turn B.H. (Buttonhole) dial (A) as shown.
2. Stitch from beginning of marking line to bottom marking line. Stop stitching when the needle is out of the fabric.

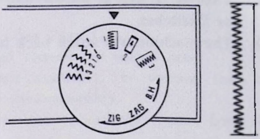


Fig. 43-1

2-Bar Tack

1. Turn B. H. dial as shown, and stitch 4 or 5 stitches.
2. The machine will stitch back bar tack.
3. Stop stitching when the needle is out of fabric.

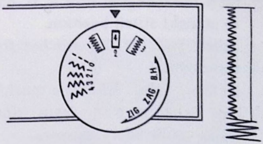


Fig. 43-2

3-Right Side Stitching

1. Turn B. H. dial as shown, and start stitching.
2. The machine will stitch in reverse.
3. Stitch up to the end of cutting space, and stop stitching when the needle is out of the fabric.

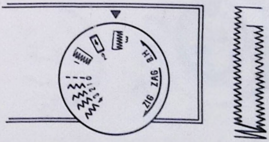


Fig. 43-3

4-Crossing Bar Tack

1. Turn B. H. dial as shown, and stitch 4 or 5 stitches.
2. The machine will stitch back bar tack.

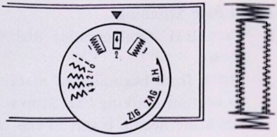


Fig. 43-4

1. Stop machine and turn B. H. dial back to straight stitch position.
2. Stitch two or four stitches for reinforcement.
3. Remove fabric from the machine and cut opening with seam ripper or sharp embroidery scissors.

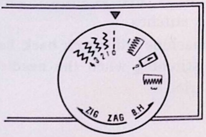


Fig. 43-5

18. CLEANING SHUTTLE AND RACE ASSEMBLY

In order to obtain the best possible performance from your machine, it is necessary from time to time to clean oil and the shuttle and race assembly.

REMOVING SHUTTLE

Remove needle, presser foot and needle plate. (See Page 1)

Raise the needle bar to its highest position and remove the bobbin case.

Release knobs (A) on the both sides of the race assembly, by opening them to both sides and remove shuttle cover (B) from the race assembly.

Take hold of the holder post (C) of the shuttle, and remove the shuttle from the race assembly.

Carefully clean the race assembly, making sure that you remove any thread or lint that may become trapped in the shuttle and race assembly. Also thoroughly clean the fabric feeders (D). This can be done with a·stiff brush.

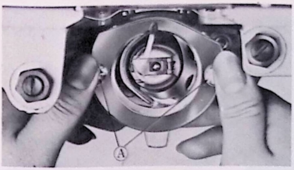


Fig. 44

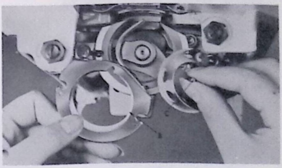


Fig. 45

REPLACING SHUTTLE IN RACE ASSEMBLY

Raise the needle bar to its highest position.

With the left thumb and forefinger, take hold of the shuttle by the holder post. Turn the shuttle so that the open ends slide over the ends of the shuttle driver (E). Gently press in.

Take the race cover in your left hand.

Place the race cover over the race assembly making sure that the two small posts on the race assembly fit into the small holes on the race cover. Tighten the both knobs.

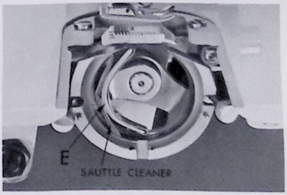


Fig. 47

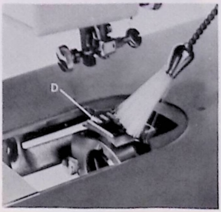


Fig. 46

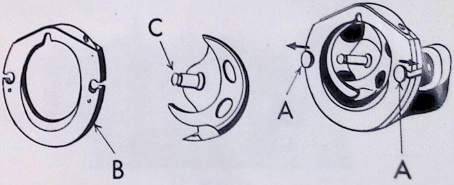


Fig. 48

19. OILING THE MACHINE

As is the case with all precision machinery, it is necessary for maximum efficency to properly oil and clean at reasonable intervals. Even thought the machine is not in constant use, it is important to oil your machine since the oil will dry after standing over a period of time.

The underside of the machine should be oiled at the arrow points as shown in **Fig. 49.**

NOTE : Before oiling, clean away all lint or foreign matter. One or two drops are sufficient at each point.

The machine should be oiled at the arrow points as shown in **Fig. 50.** These parts are accessible by opening the face plate.

To oil the top parts of your machine, remove the two screw (A & B) located at each end of the top cover (C). Remove top cover and oil the parts located at the arrow points as in **Fig. 51.**

NOTE : After you have cleaned and oiled your machine, it is advisable to run the machine at high speed so that the oil will penetrate all moving parts.

CAUTION : After cleaning and oiling machine, wipe away all excess oil, and sew on waste material.

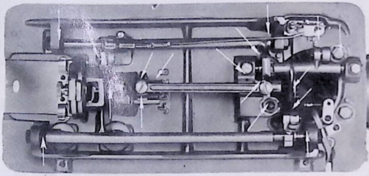


Fig. 49

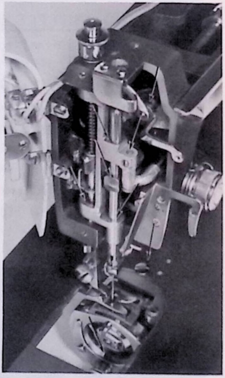


Fig. 50

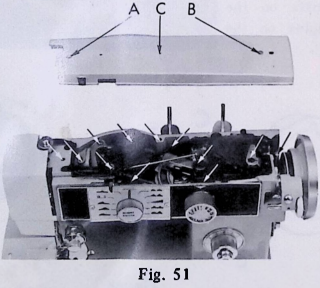


Fig. 51

20. BUILT IN LIGHT

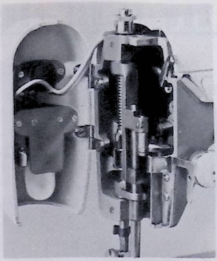


Fig. 52

Your machine is equipped with a built-in sewing light, located inside the face plate **(Page 1 # 19)**

NOTE : Face plate is hinged (See **Fig. 52**) and opens from left to right.

The sewing light switch is located on the back of the face plate (See Page 2). The sewing light is a standard bulb and can be easily replaced.

21. ACCESSORIES

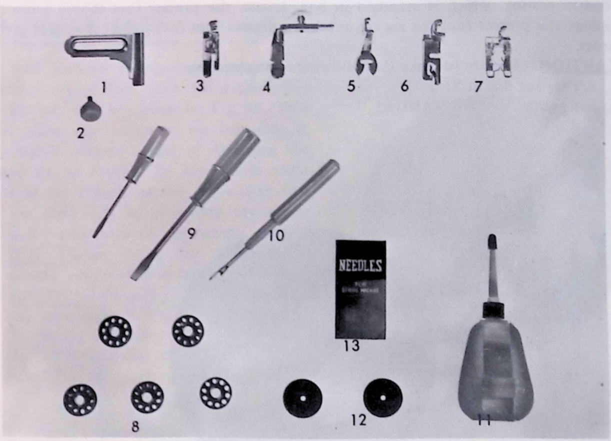


Fig. 53

1. Cloth Guide
2. Cloth Guide set Screw
3. Presser Foot for Straight Stitch
4. Zipper Foot
5. Button Sewing Foot
6. Hemmer Foot
7. Buttonhole Foot
8. Bobbins
9. Screw Drivers
10. Seam Ripper
11. Oil Can
12. Spool Pin Felt
13. Needles

HOW TO USE PRESSER FEET

Your machine is equipped with various specialized feet which will enable you to do particular jobs with greater efficiency and obtain better results. Whenever you attach a new foot to the presser bar, make sure you tighten the screw securely with a screw driver.

A. PRESSER FOOT FOR STRAIGHT SEWING

When making only straight sewing, it is better to replace the presser foot for straight sewing, which is attached in box, loosen the presser foot thumb screw and change the presser foot for zig zag stitch. To presser foot for straight sewing in reverse order.

CAUTION: Be sure to make the following arrangements.

1. Set zig zag dial at "¦".
2. Set pattern dial at "MANUAL."

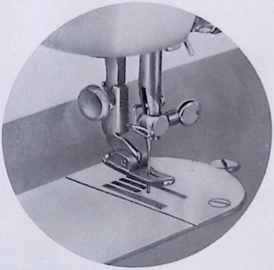


Fig. 54

B. CLOTH GUIDE

Attach cloth guide to the bed of the machine (See Fig. 55). The cloth guide will enable you to make a straight stitch at a uniform distance from the seam. The cloth guide is adjustable, making it possible to make a straight stitch at various distances from the seam.

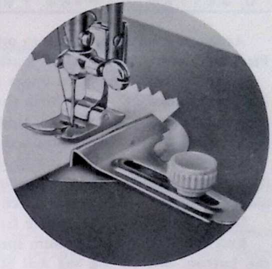


Fig. 55

C. ZIPPER FOOT

Your machine is equipped with an adjustable zipper foot. Set the zipper foot on the left side as shown in Fig. 56. This will allow you to sew on the left side of the zipper without danger of damaging the zipper or the needle. To sew on the right side of the zipper, adjust the zipper foot to the right side by loosening the screw located on the back of the zipper foot.

NOTE : When using the zipper foot always sew with a straight stitch.

CAUTION : Be sure to make the following arrangements.

1. Set zig zag dial at " ¦ "
2. Set pattern dial at "MANUAL".

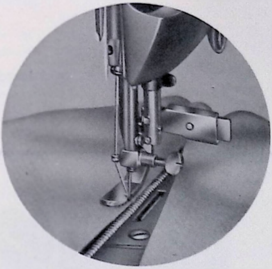


Fig. 56

D. BUTTON SEWING FOOT

Attach button sewing foot to presser bar. Drop the fabric feeders below the needle Plate by pushing the "DARN" button. (See page 9-Fig. 23)

After the fabric is placed under the foot, put the button between the fabric and the button sewing foot. Slowly turn the fly wheel toward you by hand, passing the ndedle through the left eye of the button. When the needle is half way through the button, lower the button sewing foot on the button carefully with the presser bar lifter.

Turn the fly wheel by hand toward you until the needle raises out of the button to its highest position. Continue turning the fly wheel until the point of the needle is just above the button. Adjust the stitch width with the zig zag dial.

NOTE: The needle will move from left to right.

Run the machine at medium speed, making 6 or 7 stitches. Raise the needle out ot the button. Set the zig zag dial at "¦" Make several stitches through the left eye of the button. This will lock the stitches.

You will be able to sew on four eyed buttons by following the same procedure.

CAUTION: Be sure to set the pattern dial at "MANUAL"

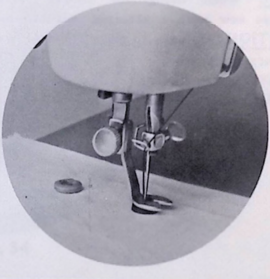


Fig. 57

E. HEMMER FOOT

CAUTION: Be sure to make the following arrangements.
1. Set zig zag dial at "!"
2. Set pattern dial at "MANUAL."

1. Straight Stitch Narrow Hem

Attach the hemmer foot. Then adjust the stitch length to medium size. (See Page 10)
Fold the material over about 1/8 inch, then insert the fold beneath the hemmer into the scroll by moving the material back and forward gently until hem rolls into the scroll of the hemmer foot.
After the material is properly inserted into the hemmer foot, pull the material toward you until the end of the material is just below the needle. Lower the presser bar, then sew the first few stitches slowly while holding the hem between the thumb and forefinger of the right hand.
CAUTION: Do not feed the material too fast or too slow into the hemmer.

2. Narrow Rolled Edge

Set zig zag dial at # 2, then follow same procedure as in making straight stitch narrow hem.

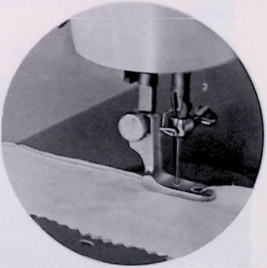


Fig. 58

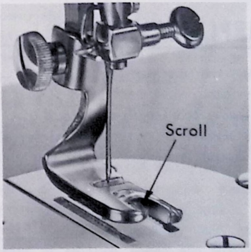


Fig. 58-1

22. BLIND HEMMING

1. Set pattern dial at "BS".
2. Set stitch length dial at #2. Prepare the garment in the same manner as for hand hemming.

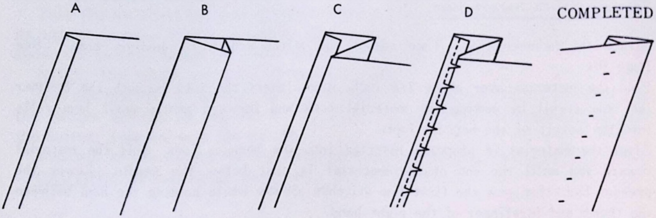


Fig. 59

A. If hem with folded edge is used, make first fold 3/8" deep.
B. Turn hem the depth desired and baste 1/4" from upper edge. Press in place.
C. Fold hem back toward right side of garment leaving 1/4" extended.
D. Place material under presser foot, with top folded edge to the left of the needle.

23. APPLIQUEING

1. Adjust the machine to a narrow zig zag stitch.
2. Set the stitch length dial to # 1. Baste material on to the article, then sew around the edges of the material.

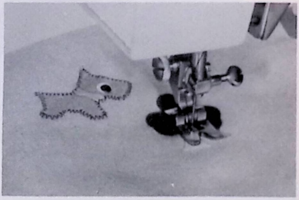


Fig. 60

24. EMBROIDERING AND MONOGRAMMING

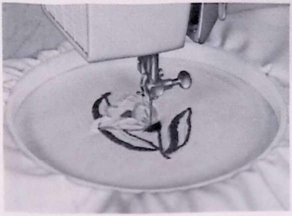


Fig. 61

1. Release pressure of presser foot. Lower fabric feeders. Set zig zag dial into position "2." Put material into embroidery hoop. Then place under foot. Lower foot, then turn the fly wheel toward you by hand and raise the lower thread through the material so that both the upper and lower threads are on your material.
2. Sew at medium speed. Move material slowly so that the thread will be closed together as in a satin stitch. With a little pratice you will be able to do many types of designs and gain a great deal of pleasure from your machine.

25. DARNING

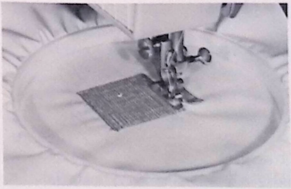


Fig. 62

1. Release the pressure of the presser foot. Lower the fabric feeders, and place the material under the foot and lower the presser bar.

   NOTE : This enables you to move the material in any direction while the machine is running.
2. Sew around the areas you desire to darn. Then move the material back and forth, sewing out beyond the worn or open place in the material. Continue until the hole is covered, going both sideways and forward and back.

   NOTE : While darning, run the machine at medium speed and always sew with a straight stitch.

26. CAUSES OF COMMON DIFFICULTIES

	Page
NOTE : Clean and oil machine at regular intervals.	19
A. Machine Makes Noise	
1. Thread jammed in race assembly. (Clean and oil shuttle and race assembly)	18
2. Blunt needle.	
3. Needle plate not placed in properly.	
4. Slide plate not all the way to the right.	
B. BREAKING UPPER THREAD	
1. Incorrect threading.	6
2. Upper thread tension too tight.	8
3. Lower thread tension too tight.	8
4. Fautly needle, or needle placed incorrectly.	3
5. Needle brushing against presser foot of other attachments.	
6. Needle eye too small for thread used.	
7. Starting the machine suddenly or with a jerk.	
8. Starting the machine with the take up lever at its highest point.	
9. Presser bar not lowered.	
10. Thread jammed in race assembly, (Clean)	18
C. BREAKING THE LOWER THREAD.	
1. Incorrect threading of the bobbin case	5
2. Lower thread tension too tight.	8
3. Bobbin wound too full or improperly.	4
4. Rough edge in hole of needle plate.	
D. BREAKING THE NEEDLE	
1. Pulling or holding the fabric while machine is running	
2. Using bent needle.	
3. Needle not set in securely. (Tighten needle clamp screw with screw driver)	
E. SKIPPING STITCHES	
1. Using bent or blunt needles.	
2. Needle inserted incorrectly	3
3. Needle threaded improperly.	6
4. Using wrong size needle. (Length-Use 15 × 1 needle)	
5. Pressure of presser foot insufficient, especially when sewing heavy material.	
F. UNEVEN STITCHES	
1. Presser foot not resting evenly on material.	9
2. Fabric feeders not high enough.	10
3. Stitches too short.	
4. Pulling or holding the cloth while machine is running.	
5. Using too fine a needle with too coarse a thread.	
6. Upper and lower thread tensions not adjusted properly.	8

PRINTED IN JAPAN

General Hints for Good Service for Your Sewing Machine

Here are answers to common questions:

PLEASE REVIEW THE FOLLOWING STEPS TO ENJOYABLE SEWING

Should I oil the machine now?

No. Our technicians have already oiled and completely checked the machine for all types of sewing. You'll note that they have even left samples of stitching tested on your machine.

What should I do about tensions on the machine?

Don't do anything! The tensions have been accurately set to sew properly, and rarely require change. On very heavy fabrics when you would normally use a longer length of stitch, you might loosen the top tension one or two numbers, but remember to tighten it the same degree when starting to sew ordinary materials again.

My machine is a cabinet model. When the lid of the cabinet is open it has a slight up-tilt, yet it lies flat when closed. Why?

It's made that way purposely, so that the gentle slope of the lid will permit the material to be drawn easier as you are sewing, and also to prevent the lid from sagging after it has leveled off somewhat.

Here are a few Do's and Don'ts

TO HELP YOU GET FULL SATISFACTION FROM YOUR NEW MACHINE

DO use this procedure when beginning to sew: 1. Insert the point of the needle into the material. 2. Lower the presser foot on to the material. 3. Apply the power. (If you do not follow this operation in sequence the needle will unthread or your machine will be difficult to start.)

DO make sure that the "take-up lever" is at its highest position when you are ready to remove the material from the machine. Lift the presser bar lifter all the way up, and then draw the material away from you, not toward you.

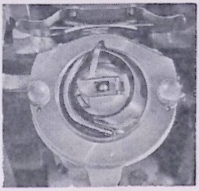
DON'T practice sewing on a single thickness of material.

DON'T run the machine while the needle is threaded without material under the presser foot.

DON'T tug at the material from the back as you are sewing, as you are apt to bend or break the needle.

DON'T change tensions if your machine makes loose or skipped stitches. Instead, check to see that the machine is threaded properly. If the threading is correct, chances are that your needle is bent or blunt. Change the needle and be sure to dispose of the bad one, so you won't use it again by mistake.

FOR PROPER THREADING AND CHANGING OF THE NEEDLE PLEASE CONSULT YOUR INSTRUCTION BOOK.



If machine binds or makes knocking noise:

CLEAN HOOK ASSEMBLY AS FOLLOWS:

1. With Take Up Lever in highest position, remove bobbin case and tilt head back on hinges.
2. Turn clamps down backward - away from the race - and remove cover.
3. Remove hook.
4. Clean thread and lint from all parts, including race.
5. Run a drop of oil along rim of hook.
6. Remove hook, then race cover. Snap clamps into place.
7. Lower machine into sewing position.
8. Grasp threaded bobbin case by latch and replace, fitting tongue into notch of race cover.

These are the basic rules for successful operation of a sewing machine and the elimination of "PROBLEMS" which often the user thinks require a service man. No service call is necessary when these rules are followed.

IF THE MACHINE DOES NOT RUN: Be sure the wall outlet is alive. Check that both wires are plugged in at the TERMINAL BLOCK in the cabinet or portable case. One plugs is for the MOTOR, the other is for the LIGHT. If the machine runs continually when the connection is made at the wall plug - Reverse the position of the two plugs in the terminal block.

...........HAPPY SEWING

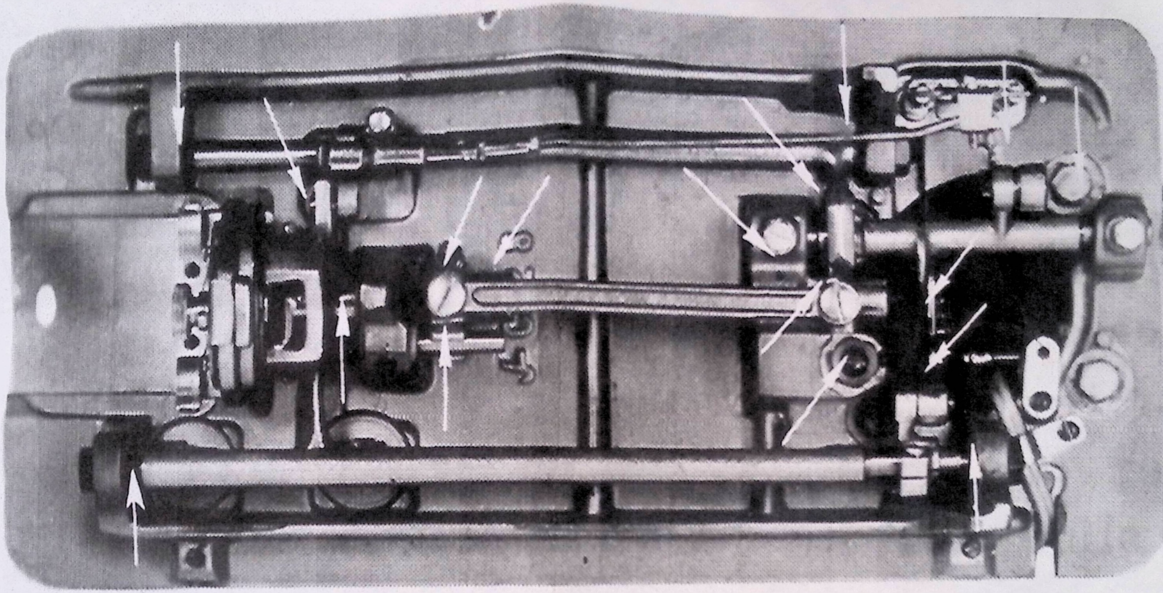
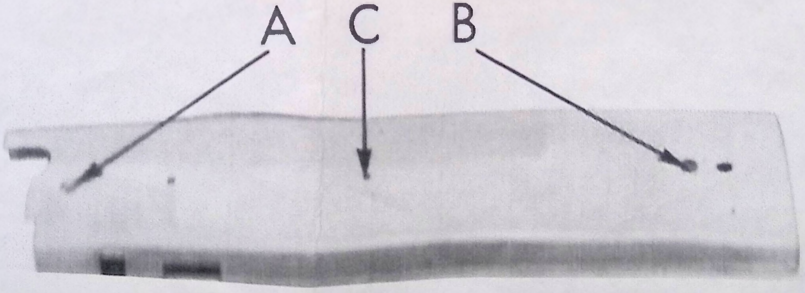


Fig. 49



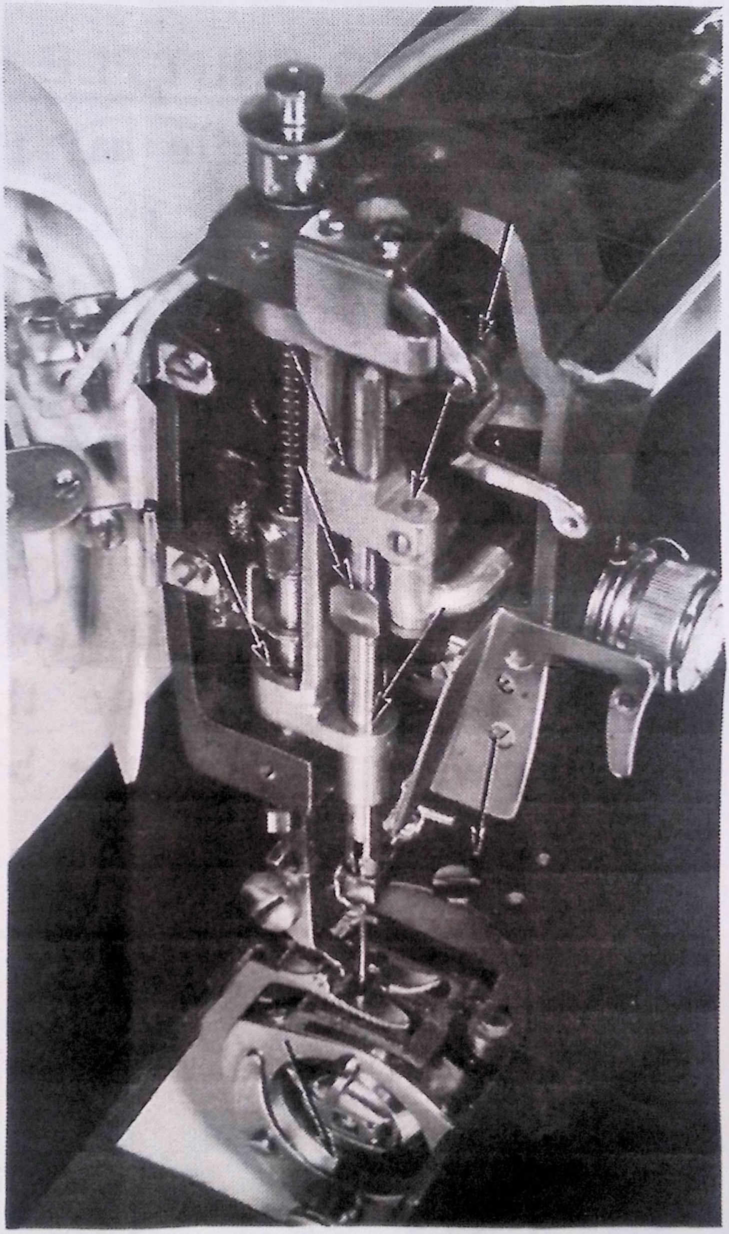


Fig. 50

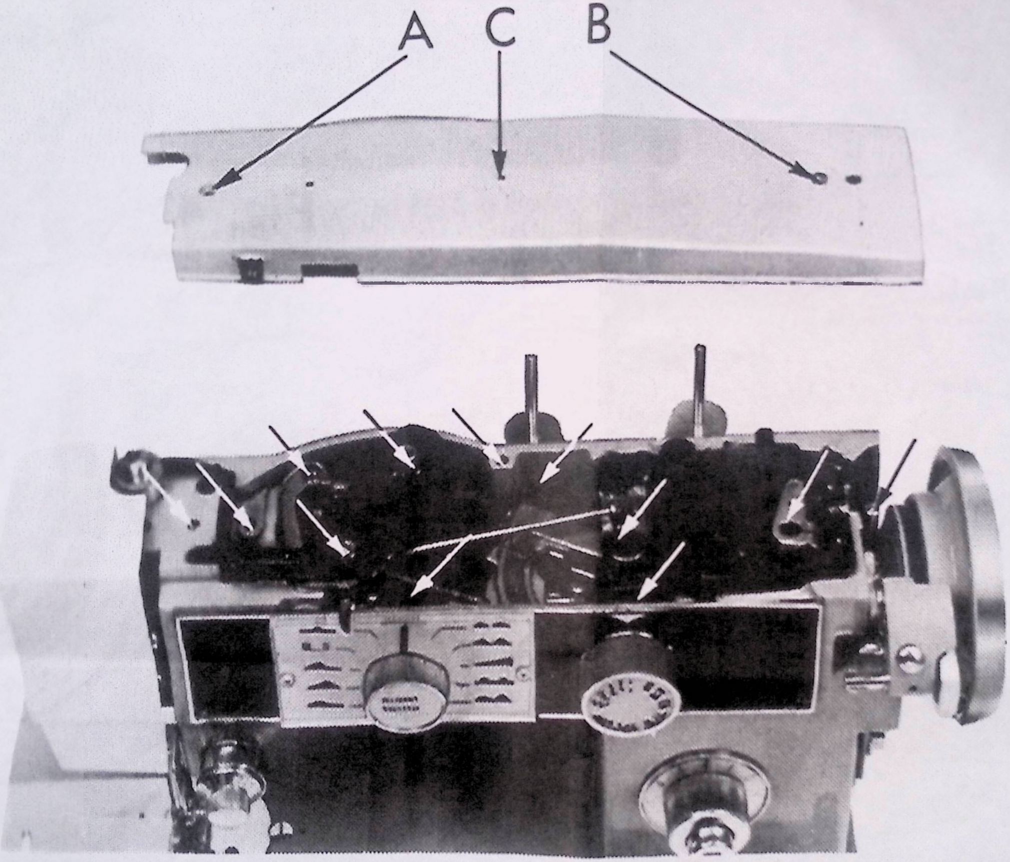


Fig. 51

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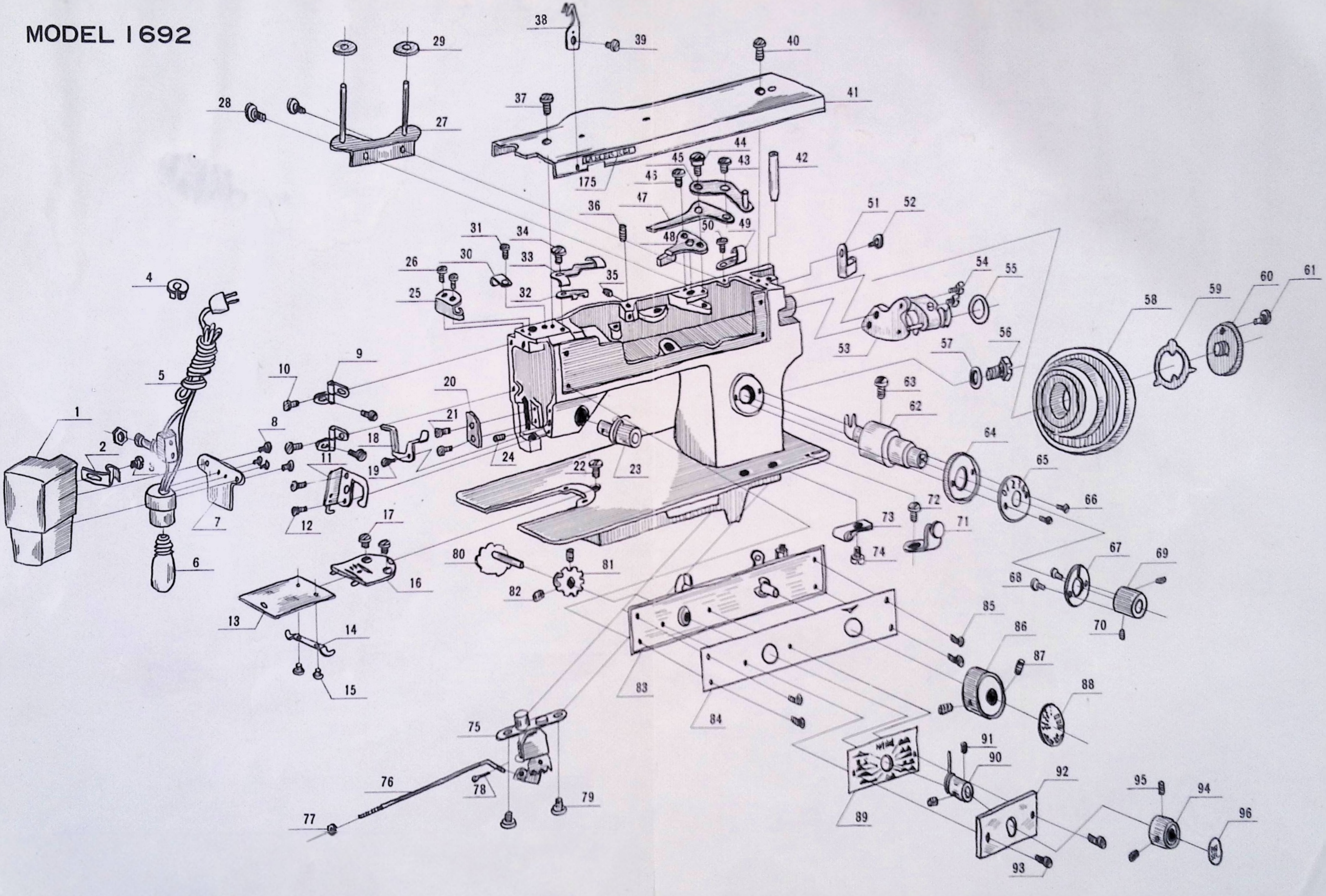
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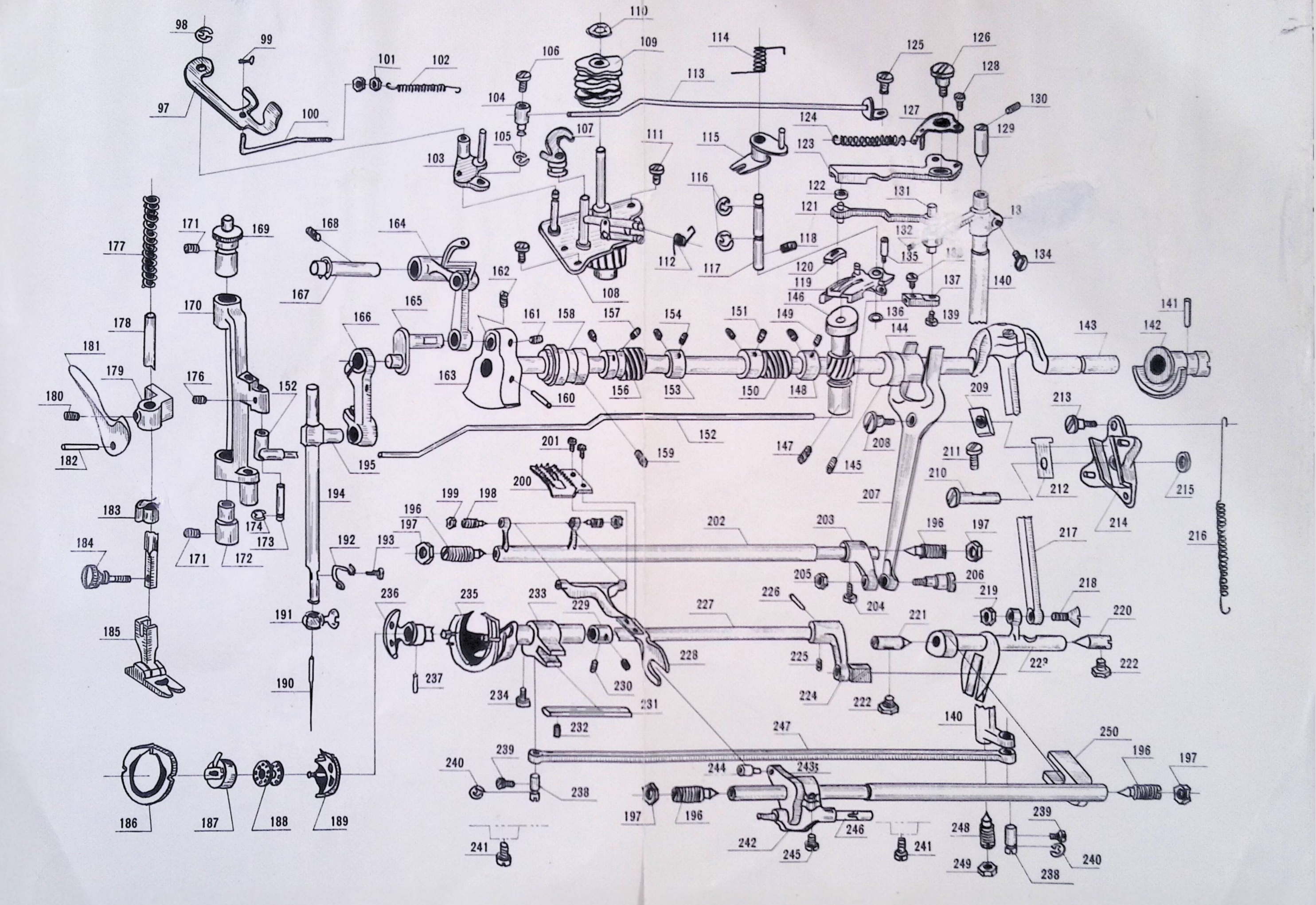
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